

# The Role of a Multidimensional Concept of Trust in the Performance of Global Virtual Teams

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## Abstract

This paper focuses on the concept of trust as an important ingredient of effective global virtual team performance. Definitions of trust and virtual teams are presented. The concept of trust is developed from its unilateral application (trust, absence of trust) to a multidimensional concept including cognitive and affective components. The special challenges of a virtual team are then discussed with particular emphasis on how a multidimensional concept of trust impacts these challenges. Propositions suggesting the multidimensional concept of trust moderates the negative impacts of distance, cross cultural and organizational differences, the effects of electronically mediated communication, reluctance to share information and a lack of history/future on the performance of virtual teams are stated. The paper concludes with recommendations and a set of techniques to build both cognitive and affective trust in virtual teams.

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## Introduction

To aggressively and accurately respond to the rapidly changing global environment, organizations are developing virtual teams to attack specific problems or challenges. According to Jarvenpaa, Knoll and Leidner (1998), a global virtual team is an example of a network organization form where a temporary team is assembled on an as-needed basis for the duration of a task and staffed by members from different countries. This new organizational form is becoming more prevalent because new technologies allow for the creation of groups that would not have been possible before, just as organizations are experiencing a growing pressure towards flexible work arrangements.

The promise of this new organizational form is greater flexibility and responsiveness, improved resource utilization, better quality products and services, and lower costs (Moshowitz, 1997). However, the challenges are many. How can such scattered teams work more effectively, increasing performance and productivity even as budgets tighten? Harmonizing cultural differences to produce world-class products will be a key challenge to both management and virtual team members.

The objective of this paper is to develop strategies and describe techniques for improving the performance of global virtual teams. In particular, the business and social science literature identifies trust as one key to high performing teams. The quickest way to build trust is through face-to-face interactions (Kasper-Fuehrer & Ashkanasy, 2001; Lipnack & Stamps, 1999). How do you build trust and overcome interpersonal conflicts when the team is not co-located?

This paper will initially focus on the literature that supports the concept of trust as an important ingredient of effective team performance. Definitions of trust and virtual teams follow. The special challenges of a virtual team will then be discussed with



particular emphasis on how trust impacts these challenges. A model will be developed with propositions linking trust and the performance of virtual teams. The paper will conclude with a set of techniques to build trust within the virtual team.

### **Why is Trust Important?**

Trust is the key to high performance for any type of team. "People who trust each other will be able to get along and work well together even in the worst of circumstances. On the other hand, people who do not trust each other will not be able to get along and work well together even in the best of circumstances." (Goetsch & Davis, 1997, p. 96) The most fundamental way of improving team performance is to build good working relationships among individuals and facilitate the building of trust. Teams that don't learn to work together will experience negative impacts on timelines, budget, and working relationships (Bandow, 2001). Leaders of high performance teams consistently identify trust as the key characteristic of truly effective teams (Larson & LaFasto, 1989). Lewis (1999) cites trust as the core ingredient of successful business alliances. With trust, alliances flourish. Without trust, they fall apart. Leavitt & Lipman-Blumen (1995) note that trust is a consistent ingredient in "hot groups," teams which are, by definition, ultra-high achieving.

Larson & LaFasto (1989) conducted a three-year study to determine what makes a successful team. The researchers cite the importance of trust for all types of teams, and they further emphasize its critical importance in problem-solving teams, recommending that this team's very structure be designed with the focus on promoting trust. A climate of trust frees members to focus on the task, rather than be distracted by the politics, personal agendas, and innuendos of human behavior – because team members know what to expect from each other (Larson & LaFasto, 1989; Bandow, 2001). Dr. Michael Gregg, speaking of his involvement with high performance teams at the Centers for Disease Control, states,

"Probably the most important element is mutual trust, where you feel that there are no other ulterior motives in your team effort than to solve the problem. . . . If your attention goes all in the same direction, it develops a unity that is very important. Trust provides a climate conducive to the exchange of ideas. Without mutual trust, you may be embarrassed to bring up something you think is trivial, although it is something people should know. You may be unwilling to admit you're having a problem with something. You may be reluctant to say to someone "Watch out for so and so because I'm afraid you are not going to get good information from him." (Larson & LaFasto, 1989, p. 88)

A collaborative endeavor requires team members to trust one another enough to be highly disclosive and share information openly – even when the information is considered "negative." This type of environment allows decisions to be made which are more aligned with what is actually happening. Hartzler and Henry (1997) cite trust as critical variable that increases communication and information sharing in virtual teams. A lack of relationship and trust may lead virtual team members to work to their own advantage rather than to the team's advantage. If trust is not developed among team members the attitude that knowledge is power may prevail. Team members will be reluctant to share information and may feel that their ideas will be stolen or exploited. Trust allows organizations to avoid the trap of hidden, festering problems that go unspoken until they explode with disastrous consequences. In a trusting environment, people feel secure bringing their problems and ideas to you (Larson & LaFasto, 1989).

Cooperation, whether between companies or among groups within one company, requires trust (Lewis, 2000). Trust fosters enthusiasm, a willingness to cooperate, a climate in which members communicate openly, disclose problems, share information, help each other overcome



obstacles and discover new ways of succeeding (Lewis, 2000; Kasper-Fuehrer & Ashkanasy, 2001; Larson & LaFasto, 1989). "People are willing to try something because there's a chance that it might work rather than remain inactive because of their fear of failure" (Larson and LaFasto, 1989, p. 92). Trust is necessary for conflict resolution, goal setting, and the creation of shared values (Jarvenpaa & Leidner, 1999).

High performance is achieved when teamwork is fostered. Trust allows team members to stay problem focused, promotes more efficient communication and coordination, and improves the quality of collaborative outcomes. Trust leads to compensating, in which one team member picks up the slack when another team member falters. When compensating occurs, the whole team is capable of pulling itself, collectively, to new levels of performance (Larson et al, 1989).

It is the building of trust and interdependence that move a team from individual accountability to mutual accountability, transforming a "work group" into a "real team," with the potential to move up to the highest levels of the performance curve (Katzenbach & Smith, 1993). Trust is the number one ingredient in the development of "social capital." Increased social capital results in an increased capability to do work, and therefore increases organizational performance (Lipnack & Stamps, 1999).

Higher levels of trust result in measurably better performance. Jeffrey Dyer and Wujin Chu's study of the economics of supply chains in the automotive industry provides evidence of the link between trust and lower costs. In their study of the eight largest automobile manufacturers in Japan, South Korea, and the United States, they questioned 435 suppliers asking how much they trusted the manufacturers. Dyer and Chu found that relationships with higher levels of trust had substantially lower costs. In the U.S., the highest trust team compared to the lowest trust team

- was 50% more productive in their use of face-to-face meeting time, and
- doubled the productivity of their purchasers (Landry, 1998).

Increased trust led to increased sharing of confidential information and resulted in a better competitive position for both the manufacturer and supplier. Suppliers would offer ideas on designing and manufacturing components to manufacturers, and manufacturers would share ideas about how the suppliers could improve their own manufacturing and distribution processes (Landry, 1998). With trust as a foundation, groups can share their know-how to achieve results that exceed the sum of the parts (Lewis, 2000).

### **What is Trust?**

Perhaps the most comprehensive definition of trust comes from Hosmer (1995) who integrates the views on trust from five contexts: individual expectations, interpersonal relationships, economic exchanges, social structures, and ethical principles. Hosmer (1995) defines trust as: "the expectation by one person, group, or firm of ethically justifiable behavior that is, morally correct decisions and actions based upon ethical principles of analysis –on the part of the other person, group, or firm in a joint endeavor or economic exchange." (p. 399)

Kasper-Fuehrer & Ashkanasy (2001) point out that trust results from an expectation of fair behavior by the other party, together with an acceptance of the rights and interests of the other party. Hosmer's definition emphasizes the importance of trust in both personal and organizational relationships and includes the idea of a joint venture, implying that there is a level of understanding of shared business practices between the parties.

More simply stated, trust is essentially confidence that a person is competent to reach a goal and is committed to reaching it (Handy, 1995). That is, the belief that you can count on your teammate. Platt (1999) emphasizes the competence and reliability aspects of trust and also includes the fairness and caring aspects. You trust people who are trustworthy, i.e. who consider how their behavior affects you. Lewis (1999) brings out the mutuality of trust in his definition of



trust as “a shared belief that you can depend on each other to achieve a common purpose” and to adapt as necessary” (p. 6).

The level of trust in a team is also affected by the members’ expectations in the team itself – that the team will enforce its standards of behavior and treat each participant as a valued and respected member (Larson & LaFasto, 1989). Focusing on the definition of trust as confidence in the face of risks, Lewicki and Bunker describe the evolution of trust from “calculus-based” trust to “knowledge-based” trust and then to “identification-based” trust. Calculus-based trust is the earliest and most fragile level of trust. In calculus-based trust, the person focuses his trust decision on the existence of deterrents to unethical behaviors that enhance the likelihood of fair dealing. As the interpersonal relationship develops, knowledge-based trust may emerge. At this stage, the risk that trust is misplaced and the trusting party can be harmed is reduced based on a history of fair dealing. The final, highest level of trust is identification-based trust. This trust is based on affective sentiments as well as cognitive understandings. Mutual respect, friendship, and emotional needs are satisfied in addition to conducting business dealings in this form of trusting relationship. Lewicki and Bunker state that identification-based trust is found most often in good marriages and rarely in organizational settings.

Macy and Stark (1998) also describe an evolution of trust from “familial trust” based on utilitarian benefits for self, family, class, race or ethnic group, to legalistic, social, communal and transcendental trust. In the early stages trust is based on cognitive cues and personal benefit; rules and evaluation are key. At the higher levels trust is more affective, it isn’t based on reciprocity rather more like faith, it is based on greater tolerance and acceptance. Trust is increasingly generalized to all of humanity and a sense of order and purpose prevails. The key for organizations is not that cognitive trust often precedes affective trust, but that higher levels of trust often require somewhat of a leap of faith. Trusting individuals will take risks in order to build trust, one does not only trust after risks have been minimized. “Those who trust are willing to take the risk and depend on the one trusted. Such faith may actually create trust as the friend finds that they are being depended upon.”

Meyerson, Weick and Kramer (1996) developed the idea of “swift” trust particularly for temporary teams. They postulated that individuals in temporary groups use prior experiences to form stereotypical impressions of others and hence, import trust from other settings with which they are familiar. After the group interacts trust is maintained by a proactive generative style of action that strengthens trust in a self-fulfilling fashion. Action strengthens the member’s confidence that the group can perform; of course, maintaining trust relies on the communication of actions by group members.

These studies suggest that trust is not a unilateral concept. There are at least two aspects of trust that could be explored: 1) the cognitive aspects of trust based on cues and reciprocity; and , 2) the affective aspects of trust that are based on emotions and prior beliefs, attitudes, and faith.

### **What is a Virtual Team?**

“A virtual team is defined as a group of individuals that conducts most of the work of the team physically apart in a synchronous or asynchronous communication medium, utilizing a spectrum of groupware applications from simple email to collaborative applications.” (Bell, 2001, pg. 1)

A virtual team is a group of people who must work together to achieve their end, but who are not co-located at one site. The team members are dispersed geographically or organizationally and rely, seldom to solely, on electronically supported means to interact (Townsend, DeMarie, & Hendrickson, 2000; Kelley, 2001). “These teams work across space,



time, and organizational boundaries with links created by communication technologies” (Kezsbom, 2001, p. 33). A virtual team might have a global reach, or involve combinations of local telecommuting members and more traditional in-house workers (Solomon, 2001).

It is the lack of physical interaction and the reliance on technology-mediated communication that characterizes a team as virtual. Therefore, if your communications with the guy from accounting on the next floor or the researcher in the next building is generally reliant on electronic media, you are accepting some of the downsides (and enjoying some of the benefits) of a virtual workplace.

A significant benefit of virtual teams is that they can be formed quickly and can adjust rapidly to changing business conditions, as members from around the world can be added or subtracted when the team needs their skills and knowledge. A virtual team is not constrained by the boundaries of traditional work environments and national borders (Bell, 2001). “There are sound business reasons for establishing virtual workplaces, but their advantages may be offset by such factors as setup and maintenance costs, loss of cost efficiencies, cultural clashes, isolation, and *lack of trust*” (Emphasis added. Cascio, 2000, p. 81). “Lack of trust can undermine every other precaution taken to ensure successful virtual work arrangements, such as careful selection of employees to work in the virtual environment, thorough training of managers and employees, and ongoing performance management” (Cascio, 2000, p. 83).

In virtual organizations, companies can choose the best person for the job—no matter where the people are located and even offer scheduling flexibility through telecommuting options (Grensing-Pophal, 1997; Solomon, 2001). Virtual teaming “creates the potential for follow-the-sun, 24-hour workdays” as teams hand off project work from the Houston office to the Moscow office to the Tokyo office, resulting in a quicker response to the customer and the ability to provide 24-hour technical support without requiring employees to shift their sleep schedule (Cascio, 2000). Customer service is improved as employees are relocated closer to the customer. Companies can realize reduced real estate expenses by moving employees from high cost headquarters locations out to the suburbs and eliminate office space that is no longer needed to support teleworkers (Cascio, 2000; Apgar, 1998). Decreased commuting miles translate into reduced auto emissions and provide environmental benefits (Cascio, 2000).

A decade ago, virtual teams were scarce (Solomon, 2001). Certainly, distributed teams such as the on-the-road sales representative who coordinated with the home office functions of marketing and engineering existed in large numbers. However, it is the increasing reliance on communication technologies (email, intranet bulletin boards, internet chat, teleconference) that differentiate the distributed sales/home office team from today’s virtual team.

According to research by Gartner, Inc., a technology research and advisory firm, 137 million workers worldwide will be involved in some form of remote electronic work by 2003. And the number of workers will continue to increase as the years progress. Gartner projects that by the year 2010 employees will spend

- 30% of their time working alone, down from 40% in 2000;
- 5% working with others in the same place, down from 15% in 2000;
- 25% working with others in a different place in the same time zone, up from 15% in 2000;
- 40% working with others in a different place and a different time, up from 30% in 2000 (Solomon, 2001).

Technology-mediated communication allows us to transfer messages much more quickly than before, enabling the virtual team. Yet we must not forget that key elements of the message may not get through to the recipient. Today’s communication technology, while allowing practically instantaneous and simultaneous transmission of our message to others across the globe, does not fully replace face-to-face communications. “Human connections have become



more important than ever because technology has made it so easy to interact without really communicating,” states John Noe, author of *People Power* (Goetsch & Davis, 1997, p. 319).

Although lowered costs and performance benefits are anticipated when a virtual team is formed, these benefits are often not realized as the virtual team fails to establish trust and does not function as a unit. Understanding the inherent difficulties in the structure of a virtual team can enable the organization to put compensating measures in place and strongly increase the likelihood of the team's success.

### **Special Challenges of a Virtual Team**

Fundamentally, what is the difference between a virtual team and a traditional co-located team? Distance. Team members are geographically dispersed. The degree of disbursement can range from within the same building but on different floors, to national or international distances. As distance increases so does the likelihood that cultural and organizational diversity will increase. Compounding these factors is the temporary nature of most virtual teams –most don't have a common history or common future together. Each project for which a virtual team is created is viewed as its own entity with little connection to the past (Jarvenpaa & Liedner, 1998). All of these factors underlie the communication challenges inherent to virtual teams. Compounding the problem of already challenged communication is the virtual team's primary reliance on the use of electronic media to communicate.

The message content of electronic communications is limited, generally lacking adequate methods for transmitting the nonverbal and emotional components of the message. Communication may be asynchronous – feedback may be distant in time. This can lead to a significant increase in misunderstandings and misinterpretations. Over time, unresponsiveness, misunderstandings, and misinterpretations combine to create culture clashes, feelings of isolation and a decreased sense of belonging. Without face-to-face meetings, full communication is impossible (Kostner et.al, 1997).

Physical separation also results in the loss of informal communication and the “social lubricant” that is created when people get to know each other. Members may never have met, or even seen each other and have no context in which to understand one another. “To ensure high performance, virtual managers need to instill trust and cooperation between the members of their offsite teams. The remote team environment is hostile to both of these elements. Familiarity is what breeds trust and cooperation” (Lally, 1997, p.6).

With distance and separation come other drawbacks. There are limited opportunities for face-to-face meetings (Lally, 1997). Team members do not have ready access to colleagues. Lack of ready access inhibits a team member from turning to colleagues for quick answers and advice. When a person can't poke their head over a cubicle wall or dash down the hall for a quick answer they may not feel comfortable approaching team members, and therefore do not. A virtual team member may be accessible by email or phone, but delays in response, phone tag, and the lack of familiarity from personal interaction can inhibit contact and reduce a virtual team's effectiveness. Familiarity provides comfort to the requester in making a request, and creates an interest in complying and a feeling of obligation in the colleague to respond quickly.

Co-located teams enjoy social interactions such as lunches, office parties, and after-work happy hours, which are not as available to the virtual team. Virtual teams also lack opportunities for informal communication, such as the hallway conversations and the gathering at the water cooler or the coffee pot. At these shared intersections, task-related information can be passed more quickly than through the formal communication channels. In addition, social interactions occur, those seemingly irrelevant conversations that often build trust between employees and enhance their future working relationship (Lipnack & Stamps, 1999). The lack of a traditional



social context compounded by cross-cultural contexts makes it more difficult to establish camaraderie among virtual team members (Benson-Armer & Hsieh, 1997).

### **Communication in a virtual world ("You've Got Mail!")**

Virtual teams require much higher levels of communication and coordination than traditional co-located teams (Barner, 2001). Face-to-face communication is the most effective means to facilitate trust (Kasper-Fuehrer & Ashkanasy, 2001). Both verbal and nonverbal cues are necessary to communicate trustworthiness (Kasper-Fuehrer & Ashkanasy, 2001; Handy, 1995). Nonverbal behaviors convey messages that are "relevant to interpersonal processes such as deception, impression formation, attraction, social influence, and emotional expression. Communication researchers have established that the functions of nonverbal behaviors include providing information, expressing intimacy, and exercising social control" (Agunis, 1998, p. 456). Trust and deception are largely inferred from perceptions of facial expressions (Kasper-Fuehrer & Ashkanasy, 2001).

Bandow (2001) states that attaining a comfort level with team members you don't know and don't share space with can take two to three times longer than with face-to-face interactions. While it takes twelve to eighteen hours to establish trust in face-to-face meetings, researchers have found that a group communicating only through technology-supported means still did not function as a group after three months. Bandow found that three to six months were needed by team members to establish enough trust to work effectively when primary communication was through email. Team members identified face-to-face meetings as important contributors to team building, even if such meetings are rare.

Co-located teams naturally access a "shared space" when needed to develop ideas together and to solve problems. For example, a group of engineers gather around a scale model in a conference room to debate design options. Occupying this shared space are the people engaged in solving the problem and the data (or object) under study. The important aspect of shared space is that the data can be seen and even manipulated by all participants. When team members are far apart, the issue of shared space becomes problematic. "If a member in Tokyo has the only spreadsheet model required to complete a 'what if' analysis, the rest of the team in New York can hardly play a full part in problem solving" (Benson-Armer & Hsieh, 1997, p. 26). Virtual teams must consciously strive to add back these collaborative activities since the opportunity to gather around a teammate's drafting table to redline a drawing does not exist when your teammate sits across the ocean.

### **Distrust Emerges (Those !!@%#&\* just don't understand!)**

Virtual teams are more susceptible to the emergence of distrust than traditional co-located teams because of the difficulties in maintaining effective lines of communication. Distrust emerges when members perceive others as untimely, unresponsive, or of having questionable intent. They are distrustful of those who do not follow-through, who talk behind each other's backs, are not committed, and don't fully participate in teamwork (Bandow, 2001).

Without effective communications, misunderstandings arise and create negative feelings. Culture clashes are exacerbated (Cascio, 2000), and not only between people of different nationalities. Different companies often have different cultures, different ways of doing business, and different approaches to solving a problem. Negative feelings that remain unaddressed result in energy spent on unproductive behaviors such as avoiding group members (Platt, 1999). Distance promotes an "us against them" mentality, which leads to counterproductive internal competition and negative behaviors. People are simply suspicious of those they seldom or never see.



Consequently, it is difficult to develop trust, unity of purpose, and collaboration across distance (Goetsch and Davis, 1997).

Interpersonal frictions are less likely to be observed when the workers are physically distant from one another and from their supervisor. In a co-located team, there are many opportunities for the other person to become aware of how you feel. Your behaviors alert the team of your displeasure or discomfort - you may avoid that person, cut short your conversations, use a cool tone, or avoid eye contact. A team member senses that something is wrong and can try to correct the situation. "When the team is virtual, these opportunities to detect the problem are not present" (Platt, 1999, p.42). If you avoid a virtual team member, how can you work together? Other negative behaviors include withholding information in meetings when one is unsure how the information will be accepted or how it will be used. Fear of being professionally harmed by others who are perceived to be interested in their own advancement at the teams' expense and a perceived uncertainty in one's own abilities arise in an environment of distrust (Bandow, 2001).

The consequences of loss of trust can be severe. Delays due to guarded speech and behavior, defensiveness, withdrawal, the tendency to double-check the work of those not trusted, and sometimes complete refusal to work with other team members (Bandow, 2001) are the effects manifested at the individual and team levels. A decrease in product quality, missed deadlines, increased costs, and employee attrition are the effects on the entire organization. The psychological effects of broken trust can last for years. "The team experience will either add to or deplete the organization's existing stock of relationship resources. Those who went through a bad experience may decide they never want to be part of another team" (Lipnack & Stamps, 1999).

Breaking trust has a major consequence on subsequent levels of trust. When a trusting relationship is violated, trust in the violator collapses to zero, instantly. In addition, a suspicion is born and all past events are reevaluated in that light. If an effort is made to rebuild the relationship after the initial breach in trust, trust increases more slowly with the level of trust never reaching its the original level. "And if the same person lies to you a second time, the relationship stands little chance of surviving. With trust gone between individuals, teams have little hope of functioning well and realizing their true potential" (Larson & LaFasto, p. 87).

### **Don't Simply Blame the Technology OR A Model of the Role of Trust in Virtual Teams**

When problems arise in virtual teams it is tempting to blame the technology or zero in on communication as the key. While it is true that both communication and technology are important, it's equally as important to delve deeper into managerial and interaction strategies that go beyond the obvious (Kimball, 1997). The information in the table below summarizes the previous sections of this paper and highlights the role of trust in virtual teams. As previously suggested trust plays an important intervening role, mitigating the potential negative impacts of distance, cultural differences, reliance on electronic media, reluctance to share information and lack of history/future; thus having a positive impact on performance in virtual teams. All of the factors listed in the first column have the potential to negatively impact performance in virtual teams. Trust plays a role in minimizing the potentially negative effects.

<b>Variables that Negatively Impact Performance in Virtual Teams</b>	<b>Role of Trust</b>	<b>Potential Impact on Performance When Trust is Present</b>
<b>Distance in space and time</b> Loss of personal contact; Loss of immediate feedback Loss of informal knowledge transfer ; ready access to peers	Adds a sense of connection	Makes it easier to exchange information lessens the social cost of asking questions adds to desire to reply on a timely basis



<b>Cross cultural/organizational difference</b> Misinterpretation, Misunderstanding	Trust makes people more accepting, more willing to work out differences	Positives: Team members are more flexible and adaptable
<b>Reliance on electronically mediated communication</b> Loss of nonverbal cues	Mediates the negative perceptions that lead to mistrust	Team members devise ways to make up for lack of face-to-face time
<b>Reluctance to share information</b>	People are more willing to share information with those they trust	More information is distributed
<b>Lack of history/future – temporary</b>	Trust allows people to focus on the task	Faster performance – team members move right to performing task related work

The potential benefits of building trust in virtual teams are well documented in previous studies yet our understanding of the role of trust is hampered by measures of trust that simply focus on whether trust is present or absent. Another problem is that most measures of trust focus on the cognitive aspects of a trusting relationship as opposed to the affective. In other words measures focus on statements such as: “overall people in my group are trustworthy; we have confidence in one another in this group” or we can rely on one another to get work done (Pierce, 1992, Jarvenpaa & Leidner, 1999; Mayer, Davis and Schoorman, 1995). These measures may mislead managers to focus on building lower levels of trust (cognitive, work related) when it may be the higher levels of trust (affective, generalized) that have greater performance implications (Macy & Stark, 1998; Meyerson, Weick and Kramer 1996).

### Propositions

The following propositions should be used to guide future research:

**Proposition One:** The negative correlation between distance in time and space in virtual teams and performance will be moderated by increased cognitive trust and moderated even more by virtual team members who report higher levels of both cognitive and affective trust.

**Proposition Two:** The negative correlation between cross cultural/organizational differences in virtual teams and performance will be moderated by increased cognitive trust and moderated even more by virtual team members who report higher levels of both cognitive and affective trust

**Proposition Three:** The negative correlation between reliance upon electronically mediated communication in virtual teams and performance will be moderated by increased cognitive trust and moderated even more by virtual team members who report higher levels of both cognitive and affective trust

**Proposition Four:** The negative correlation between the temporary nature (lack of history/future) of virtual teams and performance will be moderated by increased cognitive trust and moderated even more by virtual team members who report higher levels of both cognitive and affective trust

**Proposition Five:** Virtual team members who report higher levels of cognitive and affective trust will report more willingness to share information and belong to higher performing teams than team members who report lower levels of trust or only cognitive trust.



Future research will be necessary to determine valid measures of the above variables and to test the proposed relationships. Due to the proposed importance of developing higher levels of trust including both cognitive and affective dimensions the following sections will focus on building trust in virtual teams.

### **Techniques for Building Trust – (Can't we all just get along?)**

In the literature review section on trust several studies were summarized that suggest that trust evolves or develops. Initially people rely more on cognitive cues followed by more affective cues (Macy & Stark, 1998; Lewicki & Bunker, 1996). Additionally, Meyerson, Weick and Kramer (1996) developed the idea of "swift" trust particularly for temporary teams. They postulated that individuals in temporary groups use prior experiences to form stereotypical impressions of others and hence, import trust from other settings with which they are familiar. The following sections will present suggestions to speed the evolution of trust in virtual teams - hence, to move members from the reliance on cognitive to more affective interactions. Building trust will be discussed in the context of how to successfully employ virtual teams.

### **How To Successfully Employ Virtual Teams**

To successfully employ virtual teams, use a dual strategy. First, manage distance through structural mechanisms. Individual tasks and roles must be clear. Evaluation criteria must be objective and measurable. Task separations must be identified so team members can work independently where possible. Second, bridge distance through relational mechanisms. Build trust and a sense of connectedness between team members, and between team members and the company. Structural and relational factors contribute to successful virtual work (Raghuram, Garud, Wiesenfeld, & Gupta, 2001).

**Compensate for the Missing Elements.** Virtual organizations must have a thorough understanding of videoconferencing, Webcasts, and data sharing technologies to compensate for the limited personal interactions. Meeting managers, electronic white boards, and digital bulletin boards can aid in team coordination and foster ingenuity and innovation when used appropriately (Solomon, 2001). Virtual teams require more formal communication than traditional teams, precisely because there is less informal chatter and social interaction (coffee machine conversations, birthday party celebrations) (Kezsbom, 2000). Virtual team members should pay attention to the way that others perceive them and demonstrate their reliability to build cognitive trust (Kezsbom, 2000). Virtual team members should make every effort to establish themselves as reliable as soon as work begins. They should respond promptly and accurately to emails and voicemails, including messages from those they do not know (Benson-Armer & Hsieh, 1997). Keeping promises builds cognitive trust among team members (Goetsch & Davis, 1997).

To build affective trust virtual teams must adjust to the realities of their situation by consciously adding back the missing elements of the electronically transmitted message (the visual, paraverbal and nonverbal elements) and compensate for the personal relationships more easily formed through face-to-face contact (the informal communication paths and the social interactions). It is difficult to convey emotions in an email message. The reader must infer the intonations, inflections, and emphasis that the words would contain if the message were spoken. Kasper-Fuehrer & Ashkanasy (2001) recommend that email be enhanced with the emotional and nonverbal cues of verbal communication. For example, use chronemic cues such as delayed responses, lexical expressions (hmm, yuk), or emoticons [;-) ☺]. Researchers, having studied the use of emoticons on remote communication, found that these cues play an important role and



affect the focus of messages. In particular, they found that “emoticons permit positive and negative messages to be interpreted as intended” (Kasper-Fuehrer & Ashkanasy, 2001, p. 243). Furthermore, features to communicate emotion are important to incorporate into electronic communications to build affective trust and facilitate the communication of trustworthiness.

**Create Opportunities for Informal Conversation.** Compensating for the lack of informal conversations and social interactions that occur spontaneously in the conventional workplace (such as the brown-bag lunch and the weekly happy hour) is required in a virtual workplace to build affective trust. “Casual collisions,” those spontaneous encounters that occur where people gather and communicate were created at one Lucent office which established a Wednesday morning doughnut club where virtual-office salespeople could drop in for chat and coffee, and exchange ideas on dealing with customers. AT&T designed a café at one of their drop-in facilities to encourage casual collisions (Apgar, 1998). Scheduling time during teleconferences where people can speak informally and exchange ideas is one way to compensate for the loss of informal communications. Internet chat rooms can also be used to facilitate informal communication. Andersen Consulting’s Center for Strategic Technology Research created a virtual water cooler to encourage casual collisions. One mechanism was an area called ‘commons’ to which every member had electronic access. When a person entered the commons, the person’s picture appeared on the screen and other members could start an informal chat. The mechanism proved effective in helping people share context more effectively (Kasper-Fuehrer & Ashkanasy, 2001).

**Create Shared Space and a Sense of Connectedness.** Virtual teams offer an opportunity to work with the best talent throughout an organization. “But to accomplish this, managers must actively work to create a sense of connectedness and shared space, to use technology effectively, and to know when to forgo technology for personal communication” (Solomon, 2001, p. 64). The manager must create the virtual shared space, the electronic middle ground that the team members jointly share when they come together to create and develop ideas. This shared space can be as simple as an Internet website or electronic liveboard where real-time changes to information being mutually reviewed can be displayed to all team members. It can be as involved as the Mission Evaluation Room (MER) at the NASA Johnson Space Center in Houston. The MER is a dedicated area where engineers can receive real-time telemetry from the International Space Station and through a global communications network they can share information with Russian, Canadian, Italian, Japanese, and other American engineers around the world. Real-time transmission and simultaneous access to data by groups involved in solving problems on-orbit are provided in this use of NASA’s shared space.

**First Meetings – Face-to-Face is Important.** Face-to-face meetings should be held on a regular basis (Cascio, 2000). If opportunities are limited, a minimum of one or two face-to-face meetings is recommended to follow-up the project kick-off meeting (Bandow, 2001). Schedule these meetings to occur at points in the project with the most difficult performance challenges, where tasks require a high degree of interdependence (Maznevski & Chudoba, 2000). Team meetings must be structured to get more person-to-person interaction (Lally, 1997). Invest in beginnings. First meetings and first impressions are especially important (Katzenbach, 1993; Jarvenpaa, Knoll, & Leidner, 1998). Hold a face-to-face meeting with the full team to kick-off the project. Face-to-face meetings help establish personal relationships which will minimize future conflicts (Kelley, 2001; Maznevski & Chudoba 2000). Establish how the team will work together. Present the big picture; focus on overall team processes. Define expectations and norms of behavior. Do not start task work immediately, build relationships first. Spend half the meeting on team business and the other half learning about each other to build both cognitive and affective trust.



**Add back the Visual Dimension.** To increase the communication channels available, add back the visual dimension. Use videoconferences for task-focused meetings once team members have had a chance to get to know each other as people (Handy, 1995). Global Teamwork Associates found that the use of videoconferences enhanced the alignment and trust that were developed at the initial face-to-face meetings. The visual format provides a second chance to make a good first impression. "People can see the person they are working with, they can watch body language. Signs of mistrust, lack of agreement, and misunderstanding are obvious" (Grundy, 1998, p. 180).

**Developing a shared sense of purpose.** A virtual organization can only be held together when its members embrace a shared sense of purpose. The bureaucratic processes and management hierarchies of a traditional organization have a lesser influence on the functioning of a virtual organization. (Lipnack & Stamps, 1999). However, the leader of a virtual organization plays a pivotal role. The leader of a virtual team must excel at engendering trust and cooperation. With leaders setting a teamwork example, a collaborative style will begin to emerge among the team members (Lewis, 2000). Honesty and shared triumph over obstacles help create a shared sense of purpose in a virtual team. Trust is based on people disclosing information about their intentions and methods. When team members display altruism by reaching out and helping colleagues with no expectation of recompense, positive reputations are established and (affective) trust accrues between team members (Benson-Armer & Hsieh, 1997).

**Provide Training.** The manager must know how to structure the team through careful selection of employees. Virtual teams are not recommended for new employees, or employees unschooled in company ways. Experience and a foundation of trust may facilitate the formation of "swift trust" that can be generalized to new situations. Employee training focusing on (at a minimum) cross cultural/organizational contexts, collaborative decision-making and new communication technologies plus ongoing performance management by the leader is required (Cascio, 2000). The manager must be able to select people who are self-starters and strong communicators (Solomon, 2001). Virtual team members must be autonomous and self-reliant and still be able to be interdependent.

## Conclusion

Lowered costs and performance benefits are anticipated when a virtual team is formed, though these benefits are often not realized as the virtual team fails to establish trust and does not function as a unit. Understanding the inherent difficulties in the structure of a virtual team can enable the organization to put compensating measures in place to strongly increase the likelihood of the team's success. Although there are no magic bullets this paper has presented an overview of the importance of building trust in virtual teams. Furthermore this paper has proposed that trust is not a universal dimension. Managers need to consider the development and evolution of trust from cognitive to affective and the role of this evolution in the performance of virtual teams. Additionally, this paper has provided some techniques that can help establish develop and maintain trust. Face-to-face interactions and building personal relationships remain your strongest allies in building trust. It is worth the cost and effort to bring the team together on a regular basis; it is critical for them to meet all together at the beginning of a project. In addition, establishing a shared goal that resonates with all of the team members will provide a strong foundation for an effective team. Appropriate and effective use of



communication technologies, tailored to the complexity of the messages to be conveyed is vital to consistent team performance. Creating a sense of shared space and training the leadership and the team members to cope with the challenges of the virtual workplace are also important ingredients in the success of a virtual team.

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